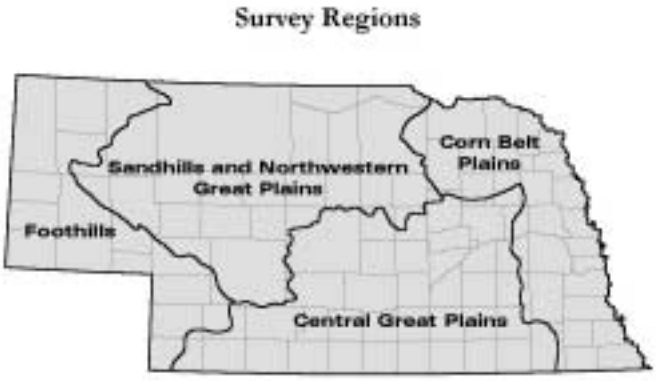
PRELIMINARY RESULTS: FURBEARER DISEASE SURVEY
WINTER 2002 / 2003

Richard Bischof
Nebraska Game and Parks Commission
May 6, 2003

Introduction:

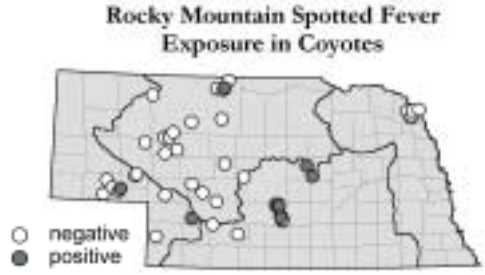
The Nebraska Game and Parks Commission (NGPC), in collaboration with the **UNL Veterinary Diagnostic Center** (VDC), has conducted a serologic survey for seven infectious diseases in wild **coyotes** and three infectious diseases in wild **raccoons** in Nebraska. Between November 2002 and January 2003, serum samples were collected from 67 raccoons and 68 coyotes from four different regions in the state. Samples were collected from animals killed by trappers and hunters during their regular fur harvest and wildlife damage control activities. The objective of this project was the collection of baseline data on the distribution and prevalence of select infectious diseases in wild predators in Nebraska.



Results:

Although serologic testing for antibodies is commonly used to survey wild animal populations for evidence of various infectious diseases, the presence of antibodies alone cannot be considered confirmation of current disease. Histological examinations or isolation of the disease agent are necessary to identify actual disease. Animals that tested positive for antibodies to various diseases in this survey can only be considered as having been exposed some time in the past and are not necessarily sick.

Rocky Mountain Spotted Fever: Eight of 64 coyotes (12.5%) tested positive for RMSF. Raccoons were not tested for RMSF. RMSF is a relatively common bacterial disease in rodents. Transmitted by ticks, it can cause clinical disease in humans and may result in mortalities if left untreated. To prevent RMSF exposure, avoid tick bites and remove attached ticks promptly. Seek medical attention at the onset of symptoms that may be indicative of RMSF (e.g. skin rash on arms and legs).



West Nile Virus: Thirty-two of 67 coyotes (47.8%) tested positive for WNV antibodies. Raccoons were not tested for WNV. WNV is an exotic disease introduced into the U.S. in 1999. It is transmitted by mosquitoes and can cause severe disease in birds, horses, and occasionally humans and other mammals. Minimizing exposure to mosquito bites can reduce WNV risk. Horses should be vaccinated.

Leptospirosis: Seven of 63 raccoons (11.1%) tested positive for antibodies for various serovars (strains) of leptospira. All 67 coyotes tested were negative for leptospirosis antibodies. Leptospirosis is transmitted via infected urine, with wildlife functioning as a source of infection for humans and domestic animals.

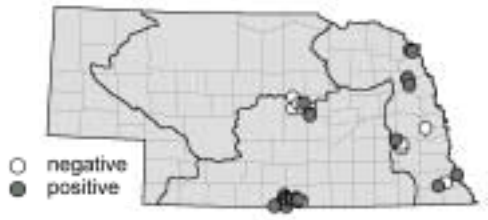
Sanitary techniques should be used to prevent leptospirosis. Swimming in slow moving streams and ponds frequented by wild animals should be avoided.

Leptospirosis Exposure in Raccoons

Canine Distemper Virus: Forty of 66 coyotes (60.6%) and 21 of 63 raccoons (33.3%) tested positive for distemper antibodies. Canine distemper is a common disease in wild canines, mustelids, and raccoons. The disease is transmitted via aerosol and direct contact and can substantially reduce raccoon populations. The disease does not affect humans but the symptoms can also be indicative of rabies. Dogs and domestic ferrets should be vaccinated against distemper.

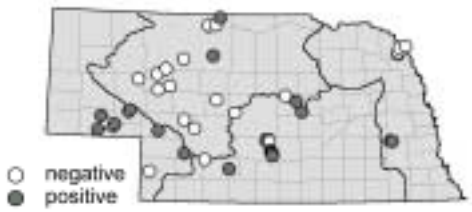
Canine Distemper Exposure in Coyotes

Canine Distemper Exposure in Raccoons

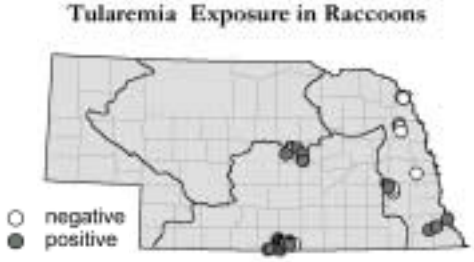


Tularemia: Nineteen of 60 coyotes (31.7%) and 23 of 60 raccoons (38.3%) tested positive for antibodies for tularemia. Tularemia is a bacterial disease, primarily in lagomorphs and rodents. Transmission occurs through ectoparasites, direct contact and contact with feces and urine. Tularemia can cause life-threatening disease in humans. Prevention includes precautions against insect bites, the use of rubber gloves when skinning game (especially rabbits), and thoroughly cooking game.

Tularemia Exposure in Coyotes



Tularemia Exposure in Raccoons



Lyme Disease: All 63 coyotes tested were negative for antibodies for Lyme disease. Raccoons were not tested for Lyme disease. Lyme disease is a bacterial infection of wildlife but rarely causes clinical disease. Lyme disease can be transmitted to humans by ticks and can cause neurological impairments, cardiac disease, and/or arthritis. To prevent Lyme disease, avoid tick bites and remove attached ticks promptly. Seek medical attention at the onset of symptoms that may be indicative of Lyme disease (such as bulls-eye rash around area of the tick bite).

Canine Brucellosis: All 64 coyotes tested were negative for canine brucellosis antibodies. Raccoons were not tested for canine brucellosis. Brucellosis is a bacterial disease that occurs worldwide in many animal species. It can cause abortions in livestock and clinical disease in humans. Brucellosis is transmitted via contact with infected body fluids and tissues. Application of sanitary techniques and proper disposal of livestock carcasses can reduce the risk of brucellosis exposure and spread.

Special thanks to the fur harvesters, fur buyers, damage control specialists, VDC and NGPC personnel that made this survey possible by assisting with the sample collection and other aspects of the study.